

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1, 5 and 22 are currently being amended.

This amendment changes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-2 and 4-22 are now pending in this application, of which claims 9, 12, 14 and 19-20 are withdrawn from consideration.

Examiner Interview

Applicants appreciate the courtesies extended by Examiner Atkinson at the interview of December 17, 2003. The substance of the interview is provided in the Interview Summary dated December 17, 2003, which is of record in the present application. Applicants' representative discussed that U.S. Patent No. 5,535,819 to Matsuura did not disclose in Figure 20 a reinforcement hole with a reinforcement member with a width smaller than that of the fins. Applicants' representative also discussed that Iokawa did not disclose the width of the insertion member being: (1) smaller than a width of the reinforcement hole, and (2) larger than a width of the linear section.

Drawings

The drawings were objected to under 37 CFR 1.83(a). Applicants have amended Figures 3 and 4B to label the narrowest portion of the insertion section as Wr'. Applicants have also amended the specification to be consistent with the labeling of Figures 3 and 4B. As can be seen in Figures 3 and 4A-4C, the width of the widest portion of the insertion section is Wr, the width of the reinforcement hole is W', the width of the narrowest portion of the insertion section is Wr', and the width of the linear section of the reinforcement hole is Wd. By comparing Wr with W', and Wr' with Wd, it can be seen that the width of the widest portion of the insertion section is smaller than the width of the reinforcement hole, and the width of the narrowest portion of the insertion section is larger than the width of the linear

section, as recited in the claim 22. Thus, applicants submit that the objection to the drawings has been overcome.

Rejection under 35 U.S.C. § 112, first paragraph

Claim 22 stands rejected under 35 U.S.C. § 112, first paragraph. Specifically, the Office Action stated that the limitations: 1) the width of the widest portion of the insertion section being smaller than the width of the reinforcement hole, and 2) the width of the narrowest portion of the insertion section being larger than the length of the linear section are not contained within the originally filed specification. As discussed above with respect to the drawings, however, the feature of claim 22 where the width of the widest portion of the insertion section is smaller than the width of the reinforcement hole, and the width of the narrowest portion of the insertion section is larger than the width of the linear section is shown in the application at least in originally filed Figures 3 and 4A-4C. Thus, applicants submit that the rejection of claim 22 under 35 U.S.C. § 112, first paragraph has been overcome.

Specification

The specification was objected to under 37 CFR 1.71 for failing to teach the device of claim 22. For the reasons discussed above with respect to the rejection under 35 U.S.C. § 112, first paragraph, and the drawings, the application as originally filed fully supports claim 22, and applicants accordingly respectfully request that the objection to the claims be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 1-2, 4, 13, 15, 18, and 21-22 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,012,513 to Iokawa (“Iokawa”) in view of U.S. Patent No. 5,868,198 to Kato (“Kato ‘198”). Claims 5-8, 10-11 and 16-17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Iokawa in view of Kato ‘198 and further in view of GB 2064751 to Hooton (“Hooton”) in view of U.S. Patent No. 5,535,819 to Matsuura (“Matsuura”). Applicants respectfully traverse these rejections for at least the reasons below.

Claim 1

Independent claim 1 requires that the width of the insertion member is: (1) smaller than a width of the reinforcement hole, and (2) larger than a width of the linear section. Iokawa and Kato fail to suggest this feature, either alone or in combination.

Office Action points to Iokawa at col. 1, lines 66-67, in part, as disclosing the insertion section being smaller than the reinforcement hole. This section of Iokawa, however, refers to a prior art structure that Iokawa intends to improve upon. Thus, Iokawa very specifically teaches away from this prior art structure where the width of the side plate is smaller than the slit hole due to problems resulting from the clearance that is created. See Iokawa, col. 1, line 66 to col. 2, line 9. Thus, what the Office Action cites as supporting the argument that Iokawa discloses an insertion section smaller than a reinforcement hole, actually suggests the opposite, because Iokawa teaches away from this prior art structure.

The Office Action states that “[i]f the [Iokawa] insertion section were larger than the reinforcement (14) hole, the insertion section could not fit into the reinforcement hole”. This statement does not appear to be entirely accurate, and in any event suggests that the present invention of claim 1 is not suggested by Iokawa and Kato. First, this statement appears to be inaccurate because force fitting could fit the insertion section into the reinforcement hole even if the insertion section width were larger than the reinforcement hole. Even more importantly, however, if Iokawa does not disclose that the width of the insertion member is larger than the width of a linear section (which the Examiner suggests if the insertion section of Iokawa must be smaller than the reinforcement hole) Iokawa cannot meet the limitations of claim 1 which requires that the width of the insertion member is larger than a width of the linear section of the hole.

Kato does not cure the deficiencies of Iokawa. Kato discloses that the widths of the side plates 8 are larger than either any linear section of the holes 10 or the holes themselves. Moreover, there is simply no need to modify Iokawa to include continuous arch sections in light of Iokawa’s teaching that the side plates should move freely as they are inserted into the headers. Thus it would not have been obvious to have combined Iokawa and Kato in the fashion suggested in the Office Action.

Claim 5

Claim 5 has been amended to recite "said reinforcement member having a substantially constant width, the substantially constant width being smaller than a width of said corrugated fin." The Office Action relies on Matsuura as disclosing the relationship between the reinforcement member width and the corrugated fin width, and specifically refers to Figure 20 of Matsuura. In Figure 20, however, Matsuura discloses fins 3 and side plate 6 of the same width. For the convenience of the Examiner, applicants have attached Appendix A which includes Fig. 20 of Matsuura. As can be seen in Fig. 20, Matsuura discloses fins 3 and side plate 6, where the portion of the side plate 6 which has a substantially constant width has the same width as that of the fins 3. Thus, even if Matsuura could be properly combined with Hooton, Iokawa and Kato, the combination would lack at least one feature of the claim 5.

For at least the above reasons, applicants submit that independent claims 1 and 5, and the dependent claims depending therefrom, are patentable over the reference cited in the rejections under 35 U.S.C. 103.

Applicants request entry of the instant amendment because it is believed to place the present application in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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ANNOTATED SHEET
Inventor: KOIZUMI et al.
Atty Dkt No.: 018889-0156
Application No. 09/461,211

HEAT EXCHANGER CORE, AND METHOD OF ASSEMBLING

Page 1 of 1

3/11

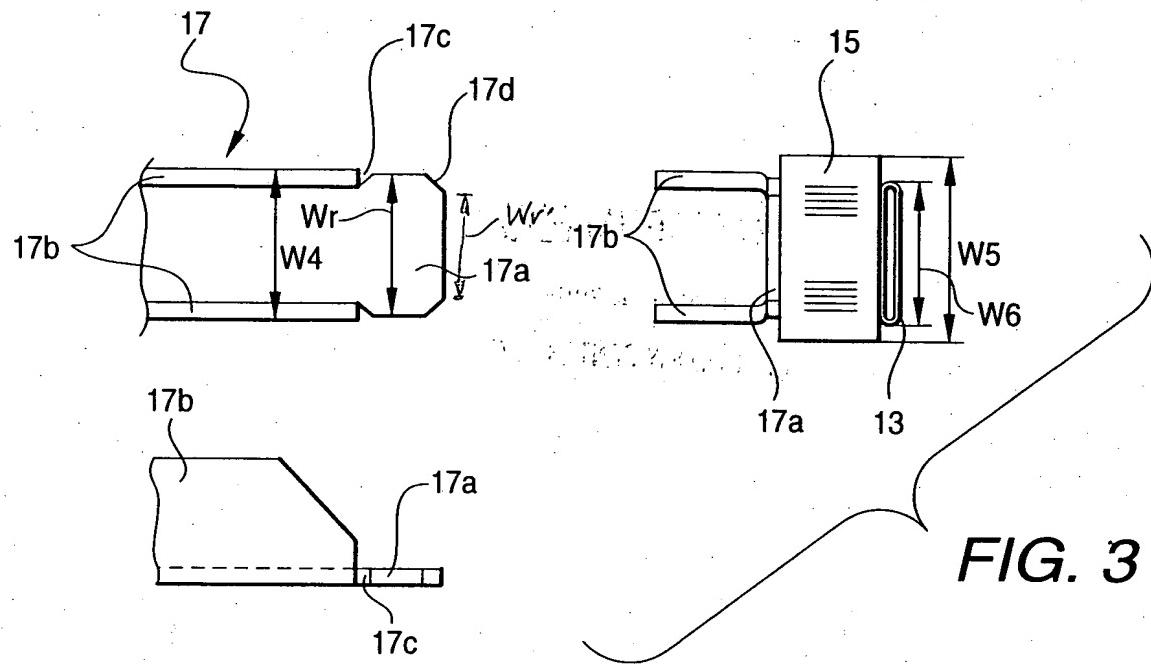


FIG. 3

FIG. 4A

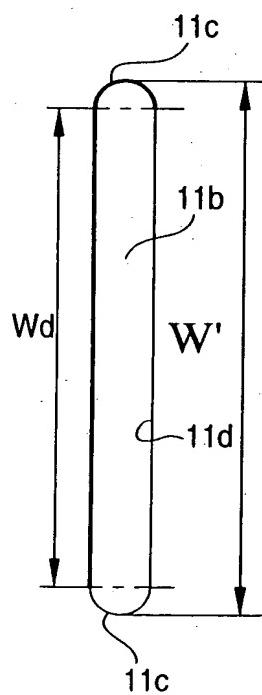


FIG. 4B

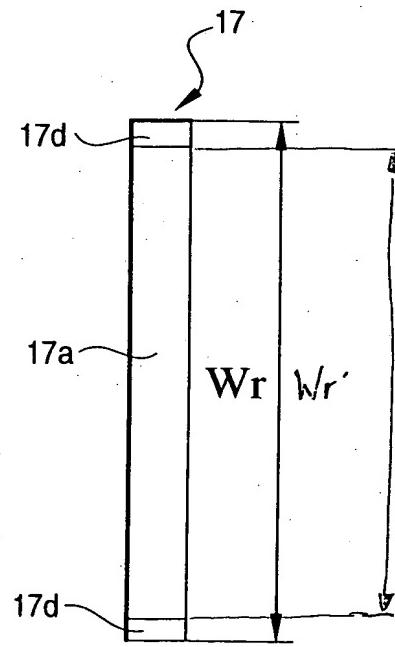


FIG. 4C

